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Excessive Weight Gain, Obesity, and Cancer:

Opportunities for Clinical Intervention

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Even though the effects of overweight and obesity on diabetes, cardiovascular disease, all-cause mortality, and other health outcomes are widely known, there is less awareness that overweight, obesity, and weight gain are associated with an increased risk of certain cancers. A recent review of more than 1000 studies concluded that sufficient evidence existed to link weight gain, overweight, and obesity with 13 cancers, including adenocarcinoma of the esophagus; cancers of the gastric cardia, colon and rectum, liver, gallbladder, pancreas, corpus uteri, ovary, kidney, and thyroid; postmenopausal female breast cancer; meningioma; and multiple myeloma.¹ An 18-year follow-up of almost 93 000 women in the Nurses' Health Study revealed a dose-response association of weight gain and obesity with several cancers.²

The prevalence of obesity in the United States has been increasing for almost 50 years. Currently, more than two-thirds of adults and almost one-third of children and adolescents are overweight or obese. Youths who are obese are more likely to be obese as adults, compounding their risk for health consequences such as cardiovascular disease, diabetes, and cancer. Trends in many of the health consequences of overweight and obesity (such as type 2 diabetes and coronary heart disease) also are increasing, coinciding with prior trends in rates of obesity. Furthermore, the sequelae of these diseases are related to the severity of obesity in a dose-response fashion.² It is therefore not surprising that obesity accounts for a significant portion of health care costs.

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A report released on October 3, 2017, by the US Centers for Disease Control and Prevention assessed the incidence of the 13 cancers associated with overweight and obesity in 2014 and the trends in these cancers over the 10-year period from 2005 to 2014.³ In 2014, more than 630 000 people were diagnosed as having a cancer associated with overweight and obesity, comprising more than 55% of all cancers diagnosed among women and 24% of cancers among men. Most notable was the finding that cancers related to overweight and obesity were increasingly diagnosed among younger people. From 2005 to 2014, there was a 1.4% annual increase in cancers related to overweight and obesity among individuals aged 20 to 49 years and a 0.4% increase in these cancers among individuals aged 50 to 64 years. For example, if cancer rates had stayed the same in 2014 as they were in 2005, there would have been 43 000 fewer cases of colorectal cancer but 33 000 more cases of other cancers related to overweight and obesity. Nearly half of all cancers in people younger than 65 years were associated with overweight and obesity. Overweight and obesity among younger people may exact a toll on individuals' health earlier in their lifetimes.² Given the time lag between exposure to cancer risk factors and cancer diagnosis, the high prevalence of overweight and obesity among adults, children, and adolescents may forecast additional increases in the incidence of cancers related to overweight and obesity.

Since the release of the landmark 1964 surgeon general's report on the health consequences of smoking, clinicians have counseled their patients to avoid tobacco and on methods to quit and provided referrals to effective programs to reduce their risk of chronic diseases including cancer. These efforts, coupled with comprehensive public health and policy approaches to reduce tobacco use, have been effective—cigarette smoking is at an all-time low. Similar efforts are warranted to prevent excessive weight gain and treat children, adolescents, and adults who are overweight or obese. Clinician referral to intense, multicomponent behavioral intervention programs to help patients with obesity lose weight can be an important starting point in improving a patient's health and preventing diseases associated with obesity. The benefits of maintaining a healthy weight throughout life include improvements in a wide variety of health outcomes, including cancer. There is emerging but very preliminary data that some of these cancer benefits may be achieved following weight loss among people with overweight or obesity.⁴

The US Preventive Services Task Force (USPSTF) recommends screening for obesity and intensive behavioral interventions delivered over 12 to 16 visits for adults and 26 or more visits for children and adolescents with obesity.^{5,6} Measuring patients' weight, height, and body mass index (BMI), consistent with USPSTF recommendations, and counseling patients about maintaining a healthy weight can establish a foundation for preventive care in clinical care settings. Scientific data continue to emerge about the negative health effects of weight gain, including an increased risk of cancer.¹ Tracking patients' weight over time can identify those who could benefit from counseling and referral early and help them avoid additional weight gain. Yet less than half of primary care physicians regularly assess the BMI of their adult, child, and adolescent patients. Encouraging discussions about weight management in multiple health care settings, including physicians' offices, clinics, emergency departments, and hospitals, can provide multiple opportunities for patients and reinforce messages across contexts and care environments.

Implementation of clinical interventions, including screening, counseling, and referral, has major challenges. Since 2011, Medicare has covered behavioral counseling sessions for weight loss in primary care settings. However, the benefit has not been widely utilized.⁷ Whether the lack of utilization is a consequence of lack of clinician or patient knowledge or for other reasons remains uncertain. Few medical schools and residency programs provide adequate training in prevention and management of obesity or in understanding how to make referrals to such services. Obesity is a highly stigmatized condition; many clinicians find it difficult to initiate a conversation about obesity with patients, and some may inadvertently use alienating language when they do. Studies indicate that patients with obesity prefer the use of terms such as *unhealthy weight* or *increased BMI* rather than *overweight* or *obesity* and *improved nutrition and physical activity* rather than *diet* and *exercise*.⁸ However, it is unknown if switching to these terms will lead to more effective behavioral counseling. Effective clinical decision support tools to measure BMI and guide physicians through referral and counseling interventions can provide clinicians needed support within the patient-clinician encounter. Inclusion of recently developed competencies for prevention and management of obesity into the curricula of health care professionals may improve their ability to deliver effective care. Because few primary care clinicians are trained in behavior change strategies like cognitive behavioral therapy or motivational interviewing, other trained health care professionals, such as nurses, pharmacists, psychologists, and dietitians could assist by providing counseling and appropriate referrals and help people manage their own health.

Achieving sustainable weight loss requires comprehensive strategies that support patients' efforts to make significant lifestyle changes. The availability of clinical and community programs and services to which to refer patients is critically important. Although such programs are available in some communities, there are gaps in availability. Furthermore, even when these programs are available, enhancing linkages between clinical and community care could improve patients' access. Linking community obesity prevention, weight management, and physical activity programs with clinical services can connect people to valuable prevention and intervention resources in the communities where they live, work, and play. Such linkages can give individuals the encouragement they need for the lifestyle changes that maintain or improve their health.

The high prevalence of overweight and obesity in the United States will continue to contribute to increases in health consequences related to obesity, including cancer. Nonetheless, cancer is not inevitable; it is possible that many cancers related to overweight and obesity could be prevented, and physicians have an important responsibility in educating patients and supporting patients' efforts to lead healthy lifestyles. It is important for all health care professionals to emphasize that along with quitting or avoiding tobacco, achieving and maintaining a healthy weight are also important for reducing the risk of cancer.

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